UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,550	11/14/2003	William E. Sobel	SYMAP037	1719

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EXAMINER
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ART UNIT	PAPER NUMBER
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _14 November 2003_.

2a)☐ This action is **FINAL**.　　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-25_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-25_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _14 November 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   No Information Disclosure Statement was filed with the application.

Oath/Declaration

2.   The Oath is signed and has been accepted.

Claim Objections

3.   Claims 3, 5, 8, 12 and 22 are objected to because of the following informalities:

a.   Claim 3 has the preposition "by" in line 2 of claim which is unnecessary and confusing.

b.   Claim 5 recites the limitation "an image" in line 3. It is unclear how many images are referenced in the claim. For the purpose of examination, the Examiner assumes that the Applicant meant "the image".

c.   Claim 8 recites the limitation "the configuration setting" in line 2. There is insufficient antecedent basis for this limitation.

d.   Claim 12 recites the limitation "an image of a machine" in line 2. It is unclear if there are 2 images or if multiple instances of "image" refer to the same

image. For the purpose of examination, the Examiner assumes that the Applicant meant, "the image is that of a machine".

e.   Claim 13 recites the limitation "an image" in line 2. It is unclear if there are 2 images or if multiple instances of "image" refer to the same image. For the purpose of examination, the Examiner assumes that the Applicant meant "the image further includes..."

f.   Claim 22 depends on claim 17, but does not reference anything in claim 17. For the purpose of examination, the Examiner assumes that claim 22 depends from claim 21. In addition, the claim recites the limitation "the image of a machine" in line 2. There is insufficient antecedent basis for this limitation.

g.   Claim 23 recites the limitation "an image" in line 2. It is unclear if there are 2 images or if multiple instances of "image" refer to the same image. For the purpose of examination, the Examiner assumes that the Applicant meant "the image". In addition, the word "abstracted" in line 3 is in the wrong tense.

h.   Claim 25 recites the limitation "an image" in line 4. It is unclear if there are 2 images or if multiple instances of "image" refer to the same image. For the purpose of examination, the Examiner assumes that the Applicant meant "the image".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5.   Claims 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claim 16, the Examiner can find no evidence in the Specification to support the limitation "verifying a key in a registry associated with the image." There is nothing to ascertain what exactly is meant by "a key". Is the key an encryption key? Is the key a public/private key used for identification? Is the key used as an index or address? Is the key a product key used to establish ownership of the image?

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claims 5-20 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 5 and 23, it is not clear from the claim language what is meant by the term "image". Is it a picture, a snapshot of a system, a restoration point for a computer? It is suggested that the Applicant further define the term within the claim in order to reflect the definition of "image" presented in the Specification. For purposes of examination, the Examiner assumes that "image" refers to a disk image of a system at a particular point in time as detailed in the Specification.

As to claim 5, it is additionally not clear what is meant by the phrase "as though the image was an independent system". What constitutes an "independent system"? Is the image an independent system? How does that effect how the repair is carried out?

As to claims 6-20, they are rejected based on their dependency to a rejected base claim.

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows: ·

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9.   Claims 24 and 25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The preamble of claim 24 cites a carrier wave and claim 25 references "program instructions sent over optical or

electronic communication links" (Specification, page 5, lines 3-4) which does not fall

within any of the categories of patentable subject matter of process, machine,

manufacture or composition of matter.

Claim Rejections - 35 USC § 102

10.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11.   Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by US

Patent Application No. 2003/0212716 to Steele et al. (hereinafter Steele).

As to claim 1, Steele teaches:

a.   Providing access to the image to allow the configuration setting to be

manipulated (analyzing the backup images) (Steele, paragraphs 59-60).

b.   Identifying the vulnerability in the image (scanning for viruses to ensure

the integrity of the backup images) (Steele, paragraphs 59-60).

c.   Eliminating the vulnerability in the image by manipulating the configuration

setting or file (applying updates and fixes to the backup images and generating

an audit trail to document the changes to the backup images) (Steele,

paragraphs 59-60).

As to claim 2, Steele teaches providing access to the file and the configuration

setting (applying updates and fixes to the backup images and generating an audit trail to

document the changes to the backup images) (Steele, paragraphs 59-60).

As to claim 3, Steele teaches updating the configuration setting (applying

updates and fixes to the backup images and generating an audit trail to document the

changes to the backup images) (Steele, paragraphs 59-60).

As to claim 4, Steele teaches modifying the file (Steele, paragraphs 59-60).

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

13.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.

2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

14.   This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15.   Claims 5-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application No. 2003/0212716 to Steele et al. (hereinafter Steele) in view of US Patent No. 6,067,410 to Nachenberg.

As to claim 5 as best understood, Steele teaches:

a.   Scanning the image (analyzing the backup images) (Steele, paragraphs 59-60).

b.   Detecting vulnerability in an image (scanning for viruses to ensure the integrity of the backup images) (Steele, paragraphs 59-60).

Steele teaches retrieving bug fixes and update notices from vendors and/or

manufacturers, but does not expressly mention determining a definition to repair

vulnerabilities. However, in an analogous art, Nachenberg teaches:

> c.   Determining a definition configured to repair the vulnerability in the image
>
> (finding a definition in a virus definition file) (Nachenberg, column 11, lines 54-
>
> 65).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement the backup image management scheme of

Steele with the definition determination of Nachenberg in order to repair files infected

with viruses as suggested by Nachenberg (Nachenberg, column 1, lines 14-19).

Steele as modified further teaches:

> d.   Repairing the image using the definition as though the image was an
>
> independent system (Steele, paragraphs 59-60).

As to claim 6 as best understood, Steele as modified teaches the definition

includes a corrective measure (Nachenberg, column 10, lines 33-45).

As to claim 7 as best understood, Steele as modified teaches testing the

definition before applying the definition to the image (using emulation module to decrypt

virus and to select the proper overlay module to eliminate the virus) (Nachenberg,

column 9, lines 1-25).

As to claim 8 as best understood, Steele as modified teaches determining whether the vulnerability affects the configuration setting (analysis of the configuration settings) (Steele, paragraph 32).

As to claim 9 as best understood, Steele as modified teaches determining the location of the vulnerability (location of bytes to be overwritten to eliminate the virus) (Nachenberg, column 9, lines 1-17).

As to claim 10 as best understood, Steele as modified teaches the image has a configuration setting and further including implementing the definition in the configuration setting (applying updates and fixes to the backup images and generating an audit trail to document the changes to the backup images) (Steele, paragraphs 59-60).

As to claim 11 as best understood, Steele as modified teaches implementing the definition in a file associated with the image (using definition to repair an emulation of the image to ensure the definition will repair the infected file) (Nachenberg, column 10, lines 54-65).

As to claim 12 as best understood, Steele as modified teaches evaluating an image of a machine, the machine configured to run as a system (using a virtual machine) (Nachenberg, column 6, lines 8-16).

As to claim 13 as best understood, Steele as modified teaches abstracting a physical resource of the system to generate a virtual machine, the virtual machine representing a collection of resources to execute an application (using a virtual machine) (Nachenberg, column 6, lines 8-16).

As to claim 14 as best understood, Steele as modified teaches comparing the definition to the image to yield a result whereby the result indicates whether the definition is current (virus definition has virus signatures used to signal when a virus has been completely decrypted) (Nachenberg, column 9, lines 1-40).

As to claim 15 as best understood, Steele as modified teaches comparing the definition to a criterion to determine whether to apply the definition to the image (selecting appropriate virus definition) (Nachenberg, column 7, lines 54-65).

As to claim 16 as best understood, Steele as modified teaches wherein determining a definition configured to repair the vulnerability in the image further includes verifying a key in a registry associated with the image (virus index of the virus infecting the image is used to select the definition) (Nachenberg, column 10, lines 33-45).

As to claim 17 as best understood, Steele as modified teaches scanning a storage associated with the image (image is scanned while it is in a storage medium) (Steele, paragraph 59).

As to claim 18 as best understood, Steele as modified teaches wherein determining a definition configured to repair the vulnerability in the image further includes scanning a processor state associated with the image (the virtual machine is infected and the proper repairs are then instituted) (Nachenberg, column 9, line 1-column 10 line 65).

As to claim 19 as best understood, Steele as modified teaches wherein determining a definition configured to repair the vulnerability in the image further includes modifying a storage associated with the image (when the image is updated the storage is modified) (Steele, paragraphs 59-60).

As to claim 20 as best understood, Steele as modified teaches wherein determining a definition configured to repair the vulnerability in the image further includes modifying a processor state associated with the image (the virtual machine is infected and the proper repairs are then instituted) (Nachenberg, column 10, lines 5-10).

As to claim 21 as best understood, Steele as modified teaches:

a.   An engine configured to detect a vulnerability in an image having a

configuration setting (Steele, paragraphs 59-60).

b.   A logic module configured to determine a definition configured to secure

the image (finding a definition in a virus definition file) (Nachenberg, column 11,

lines 54-65) and to test the definition before applying the definition to the image

(virus definition is used on an emulation of the image file) (Nachenberg, column

9, line 1-column 10, line 67).

c.   An access module for restoring the image using the definition

(Nachenberg, column 9, line 1-column 10, line 67).

As to claim 22 as best understood, Steele as modified teaches the engine

includes a decomposer configured to abstract the image of a machine (creating a virtual

machine for the emulation module) (Nachenberg, column 6, lines 1-36).

As to claim 23 as best understood, Steele as modified teaches:

a.   A logic for assessing a vulnerability in an image (Steele, paragraphs 59-

60).

b.   A virtualization module for abstracting the image from a file (Nachenberg,

column 9, line 1-column 10, line 67).

c.   A decomposer for writing data to a registry (writing repairs to the back up

copy of the image) (Nachenberg, column 10, lines 54-65).

As to claims 24 and 25 as best understood, Steele as modified teaches:

a.   Instructions for detecting a vulnerability in an image having a configuration setting (Steele, paragraphs 59-60).

b.   Instructions for determining a definition configured to secure the image (finding a definition in a virus definition file) (Nachenberg, column 11, lines 54-65).

c.   Instructions for testing the definition before applying the definition to the image (virus definition is used on an emulation of the image file) (Nachenberg, column 9, line 1-column 10, line 67).

d.   Instructions for restoring the image using the definition (Nachenberg, column 9, line 1-column 10, line 67).

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are listed in the Notice of References Cited, form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William S. Powers whose telephone number is 751 272 8573. The examiner can normally be reached on m-f 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on 571 272 3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William S. Powers
Examiner
Art Unit 2134

4/25/2007

KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER